

485-714 Teaching Maths from Student Conceptions

Credit Points:	25.00
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2009.
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	<p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p>
Subject Overview:	This subject explores the ways in which teaching mathematics can be informed by a deep understanding of students' conceptions of mathematical ideas. It examines theories and research on how students' intuitions, conceptions and misconceptions arise and the nature of teaching to best promote conceptual change and harness human intelligence. These ideas are explored for several of the major themes of middle years mathematics, such as understanding of place value and decimal numbers, proportionality, probability, introductory algebra and graphing. This subject is suitable for both primary and secondary teachers.
Objectives:	<p>At the completion of this subject, students will be able to:</p> <ul style="list-style-type: none"> # describe common student intuitions, conceptions and misconceptions in a range of mathematics topics; # create learning materials that promote conceptual change in students and discuss appropriate pedagogy; # document an individual student's understanding of a mathematical topic in detail, with reference to research literature.
Assessment:	<p>Participation in weekly seminars, including short presentations. Reports of four data gathering exercises totalling 2,000 words (20 per cent) A review of curriculum materials available to teach a selected topic, analysed from theoretical and practical perspectives (3,500 words, 45 per cent) A review of the literature on students' understanding of a mathematical topic (2,500 words, 35 per cent)</p>
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>On completion of this subject, students should be able to:</p> <ul style="list-style-type: none"> # evaluate and synthesise the research and professional literature in the discipline; # apply well developed problem solving skills to solve pedagogical problems; # articulate knowledge and understanding in oral and written presentations; # offer leadership in engaging with issues in the educational community.

Links to further information:	www.edfac.unimelb.edu.au
Related Course(s):	Master of Education (Stream 100A) Coursework and Thesis A Master of Education (Stream 100B) Coursework Master of Education (Stream 150) Major Thesis Master of Education (Stream 150A) Coursework and Thesis A Master of Education (Stream 150B) Coursework